QUARTERLY PROGRESS REPORT

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Abstract

The original proposal described the construction and operation of a 1 MMscfd treatment system to be operated at a Butcher Energy gas field in Ohio. The gas produced at this field contained 17% nitrogen. During precommissioning of the project, a series of well tests showed that the amount of gas in the field was significantly smaller than expected and that the nitrogen content of the wells was very high (25 to 30%). After evaluating the revised cost of the project, Butcher Energy decided that the plant would not be economical and withdrew from the project. Since that time, Membrane Technology and Research, Inc. (MTR) has signed a marketing and sales partnership with ABB Lummus Global, a large multinational corporation. MTR will be working with the company's Randall Gas Technology group, a supplier of equipment and processing technology to the natural gas industry. Randall's engineering group has found a new site for the project at a Milfay, Oklahoma gas processing plant.

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Introduction

The natural gas specification for inert gases is less than 4%. On this basis, about 17% of known U.S. reserves of gas are subquality due to high nitrogen content. Some of this gas can be brought to pipeline specifications by dilution with low-nitrogen-content gas; some is treated by cryogenic condensation and fractionation. Nonetheless, about 1.0 trillion scf of known reserves are currently shut in.

This project covers the first demonstration of a new membrane technology to treat this otherwise unusable gas. The objective of this project is to develop a membrane separation process to separate nitrogen from high-nitrogen-content natural gas. To demonstrate the process, a proof-of-concept plant will be built and operated.

Experimental

No experiments were performed during this reporting period.

Results and Discussion

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Since that time, MTR has signed a marketing partnership with ABB Lummus Global, a large multinational corporation. We will be working with the company's Randall Gas Technology group, a supplier of equipment and processing technology to the natural gas industry. Randall's engineering group has found a new site for the project at a gas processing plant in Milfay, Oklahoma.

A standard skid design has been prepared by ABB and preliminary quotations for its construction have been obtained from five fabricators. A drawing from the bid package is attached as Figure 1. The standard skid contains 24×20 m^2 modules.

Since our last meeting with Duke, the Milfay plant has been sold to ScissorTail Energy, LLC. This plant's feed gas will be consolidated with that of other ScissorTail plants in the area. We will meet with Scissor Tail in early August to finalize the plant design.

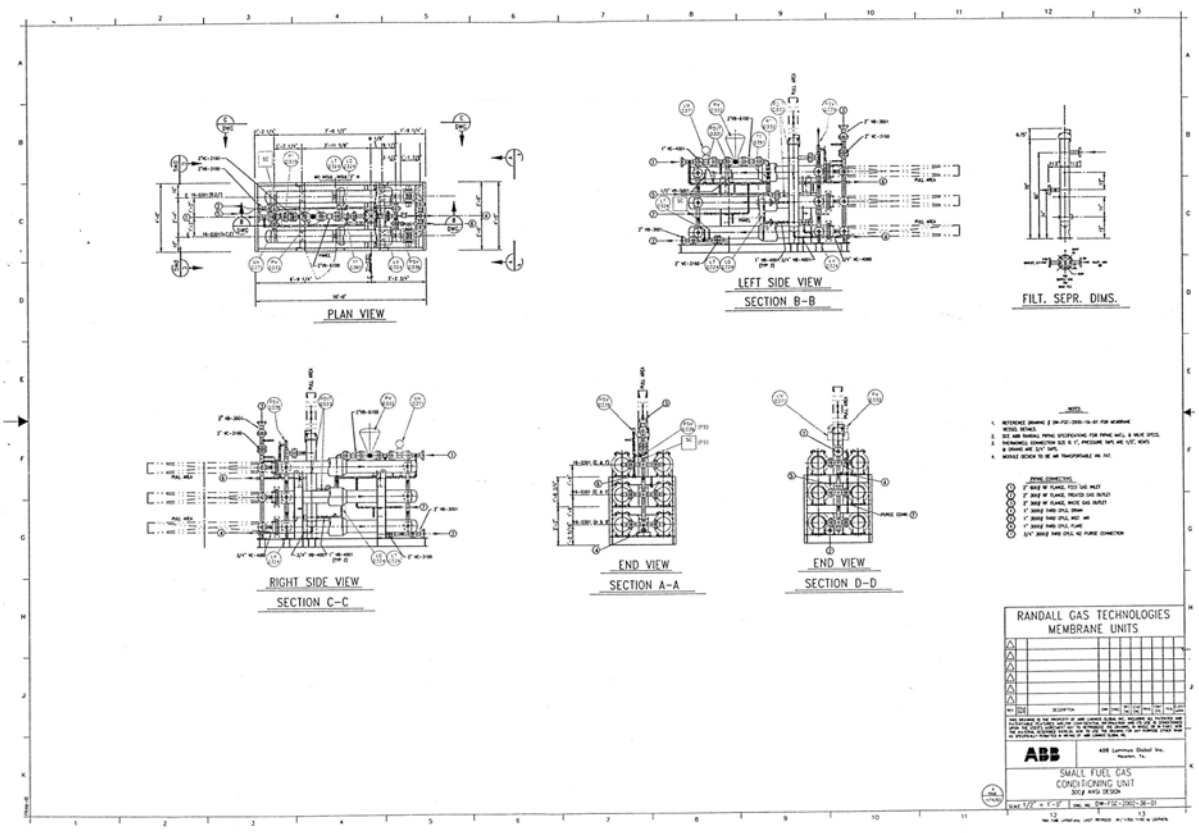

Figure 1. Drawing of standard skid from the bid package submitted to fabricators.

Conclusion

We will send the standard skid out for fabrication next quarter. MTR will make the modules for the unit, including spares. We expect to install the unit some time in the fourth quarter of 2003; start-up is planned for early 2004.

References

None cited.